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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/492,052 | 01/26/2000 | Jin-Soo JEONG | P992070 | 9396 |

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| EXAMINER |
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GARY, ERIKA A

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| ART UNIT | PAPER NUMBER |
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2681

DATE MAILED: 11/20/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/492,052

Applicant(s)

JEONG, JIN-SOO

Examiner

Erika A. Gary

Art Unit

2681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 9-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities: in limitation (c)(i), "MSC" should be --an MSC (Mobile Switching Center)--; in limitation (d)(ii), "retrieving to the subscriber class" should be --retrieving the subscriber class--. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 9, and 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Dufour, US Patent Number 6,073,010 (hereinafter Dufour) in view of Chow et al., US Patent Number 6,546,253 (hereinafter Chow).

Regarding claim 1, Dufour discloses a method for controlling a hand-off of an MS (Mobile Station) for home zone service (fixed subscriber area) in a mobile telecommunications system [col. 3: lines 18-21, 61-67], comprising the steps of:

(a) establishing a call connection between said MS and a BTS (Base Transceiver Station) providing the home zone service [col. 5: lines 50-52];

(b) requesting a BSC (Base Station Controller) to make the hand-off to a hand-off targeted BTS via said BTS [col. 4: lines 5-6];

(c) (i) causing said BSC to receive a home zone information of said MS from a MSC wherein the home zone information includes a home zone list and a subscriber class of said MS [col. 2: lines 55-61; col. 5: lines 38-47];

(c) (ii) causing said BSC to determine whether the hand-off targeted BTS belongs to the home zone using the home zone list [col. 5: lines 63-65; col. 5: lines 38-47];

(d) (i) performing the hand-off of said MS to said hand-off targeted BTS if said hand-off targeted BTS belongs to the home zone service [col. 7: lines 15-18];

(d) (ii) determining whether said MS is registered to be used only in the home zone or not by retrieving the subscriber class [col. 6: lines 7-10];

(e) dropping said call connection if said hand-off targeted BTS does not belong to the home zone service and if said MS is registered to be used only in the home zone service [col. 3: lines 38-41]; and

(f) performing the hand-off of said MS to said hand-off targeted BTS if said hand-off targeted BTS does not belong to the home zone service and said MS is registered to be used both in the home zone service and a non-home zone service [col. 6: lines 1-5].

What Dufour does not specifically disclose is that in step (d)(ii), the subscriber class of the MS is retrieved when the hand-off targeted BTS does not belong to the home zone. However, Chow teaches this limitation. Chow discloses that when a subscriber roams outside their home zone (hence the call is to be handed off to a targeted BTS that does not belong to the home zone), the call is either disconnected or

allowed [col. 7: lines 33-35, 38-47]. It is obvious that in this scenario, it is then determined whether the MS is registered to be used only in the home zone or not.

Dufour and Chow are combinable because they are from the same field of endeavor, that is, controlling handoff from a fixed home zone service area. At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Dufour to include Chow. The motivation for this combination would have been to provide the specific handoff steps of Chow to Dufour in order to more efficiently restrict or allow a potential hand-off.

Regarding claim 9, Dufour discloses the step (e) of dropping said call connection further includes the steps of sending a BTS acknowledging signal to said MS, sending a warning message to said MS, and causing said MS to output said warning message to inform the subscriber of said MS [col. 7: lines 18-20].

Regarding claim 10, Dufour discloses said warning message comprises either one of visual characters, tones, and flash light [col. 7: lines 19-20].

3. Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dufour in view of Chow.

Regarding claim 11, Dufour discloses a method for controlling a hand-off of mobile station (MS) for home zone service (fixed subscriber area) in a mobile telecommunications system [col. 3: lines 18-21, 61-67] including a plurality of base transceiver station (BTSs), a base station controller (BSC) for controlling said BTSs, and a mobile switching center (MSC) for connecting said BSC with one BTS to another

BTS or another network, wherein said BTS provides the home zone service [col. 3: lines 10-12; col. 4: lines 25-27], the method comprising the steps of:

(a) causing said MS to connect a communication channel with said BSC via said another BTS in response to either one of an outgoing call and an incoming call [col. 4: lines 58-60];

(b) causing said BSC to store a home zone list and a subscriber service class information of said MS received from said MSC [col. 3: lines 29-38]; and

(c.) causing said BSC to selectively perform the hand-off requested by said MS according to the home zone list and the subscriber service class information [col. 3: lines 64-67].

What Dufour does not specifically disclose is that the home zone service of the MS is the home zone service of a fixed network. However, Chow discloses controlling hand-off of an MS wherein the MS is registered to be used in the home zone service of a fixed network [col. 2: line 66 – col. 3: line 3].

Dufour and Chow are combinable because they are from the same field of endeavor, that is, controlling handoff from a fixed home zone service area. At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Dufour to include Chow. The motivation for this combination would have been to provide the specific handoff steps of Dufour to Chow's cordless/cellular system as Dufour teaches controlling handoff from a fixed subscription area which functions as Chow's home zone service of a fixed network.

Regarding claim 12, Dufour discloses the step of dropping said communication channel if said another BTS is not included in the home zone list and if said MS is registered to be used only in the home zone service [col. 3: lines 38-41].

Regarding claim 13, Dufour discloses the step of dropping said communication channel comprises the step of sending an attention message to said MS and causing said MS to output said attention message to inform the subscriber of said MS [col. 7: lines 18-20].

Regarding claim 14, Dufour discloses said attention message comprises either one of visual characters, tones, and flash light [col. 7: lines 19-20].

Regarding claim 15, Dufour discloses the hand-off is performed if said another BTS is included in the home zone list [col. 7: lines 14-17].

Regarding claim 16, Dufour discloses the hand-off is performed if the subscriber class information specifies that said MS registered to be used both in the home zone service and a non-home zone service [col. 6: lines 1-5].

4. Claims 2-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dufour and Chow in view of Kazmi, US Patent Number 6,044,261 (hereinafter Kazmi).

Claim 2 depends on claim 1. As discussed above, the combination of Dufour and Chow discloses the limitations of claim 1. What the combination does not specifically disclose are the limitations of claim 2 disclosing additional call establishment steps. However, Kazmi teaches these limitations as will be discussed below.

Regarding claim 2, Kazmi discloses a mobile telecommunications system with multiple home zones wherein the step of establishing a call connection includes

(h) causing said MSC to request the home zone information of said MS from a HLR in response to a request to establish said call connection between said MS and said BTS [col. 7: lines 13-17]; and

(i) causing said HLR to send the home zone information to said MSC [col. 7: lines 17-25]. It is obvious that the home zone information is stored in the BSC once it is received in order to correctly implement the call processing. Further, Kazmi's MSC corresponds to the functionality of the BSC in the present invention and Kazmi's HLR corresponds to functionality of the MSC in the present invention. It is well known in the art that functions of the BSC can be performed by the MSC as they are sometimes implemented as one unit and likewise for the HLR and MSC.

Dufour, Chow, and Kazmi are combinable because they are from the same field of endeavor, that is call processing for mobile telecommunication networks with designated home zones. At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Dufour and Chow to include Kazmi. Dufour discloses that mobile stations are capable of initiating calls through the BTS and MSC [col. 4: lines 58-60], but does not provide further call establishment details. It is well known in the art to request subscriber profile data before establishing a call to ensure accurate call processing or billing, for example. The motivation for the combination would have been to specifically include the call establishment details for further clarification.

Regarding claim 3, Dufour discloses the home zone information includes a home zone list having a plurality of BTSs providing the home zone service to said MS and a subscriber class information specifying whether said MS is registered to be used in the non-home zone service [col. 2: lines 55-59].

Regarding claim 4, Kazmi discloses the step (h) of sending the home zone information from said HLR to said MSC is achieved through a call proceeding message [col. 7: lines 13-25]. Again, Kazmi's MSC corresponds to the functionality of the BSC in the present invention and Kazmi's HLR corresponds to functionality of the MSC in the present invention.

Regarding claim 5, Dufour discloses the home zone information is stored in a database [col. 2: lines 55-59].

Regarding claim 6, Dufour discloses the database is stored in an LRS (Location Registration System) [col. 2: lines 55-59].

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Barber et al., US Patent Number 6,405,038, discloses a cellular carrier selection system comprising determining whether the mobile station is registered to be used only in a home zone or not by retrieving a subscriber class when a hand-off targeted base station does not belong to the home zone.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erika A. Gary whose telephone number is 703-308-0123. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh N. Tran can be reached on 703-305-4040. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750 or to the 2600 Customer Service Office at 703-306-0377.

Any response to this action should be mailed to:


Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9306 (for informal or draft communications, please label "PROPOSED" or "DRAFT").

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive Arlington, VA., Sixth Floor (Receptionist).

EAG
November 12, 2003


ERIKA GARY
PATENT EXAMINER